

Industrial Hygiene & Occupational Medicine Information Clearinghouse

NEWS

November 1999

Asbestos Proficiency Testing Contracts By Gerry Wright, Head Operating Forces Support Department

The Navy Environmental Health Center has reestablished two ongoing 5-year contracts for proficiency testing for fiber counting and fiber identification laboratories. These contracts were awarded to the American Industrial Hygiene Association and the Research Triangle Institute, respectively. The first rounds of samples in the new contracts will be PAT #139 (sent the first week in Oct 1999) and RTI # 67 (sent the first week in Nov 1999). Once again, NEHC will pay for these samples. If you are enrolled in these programs, please faithfully participate. If your Navy asbestos laboratory is not enrolled in Proficiency Testing, as required by OPNAVINST 5100.23E, please contact me (for enrollment information).

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CANDLES WITH LEAD WICKS EMIT LEAD

Charlie Gross sends us this article about a news release from the University of Michigan School of Public Health.

October 6, 1999 (5)

Some candles with lead wicks emit lead into the air

ANN ARBOR---A University of Michigan School of Public Health study of candles purchased from stores in southeast Michigan shows that some candles on the market today are made with wicks that have either lead or lead cores that emit potentially dangerous levels of lead into the air.

The study is by Jerome Nriagu, a professor of environmental health sciences, who

examined lead emissions from 15 different brands of candles made in the United States, Mexico and China. He also examined the concentration levels of lead that lingered in the air in an enclosed space, such as a room measuring 12 feet by 12 feet and 10 feet high, after one hour and then again for five hours.

Nriagu's study showed that lead emission rates for the candles ranged between 0.5 and 327 micrograms per hour. After burning the candle for one hour, the lead levels in the air of an enclosed space were estimated to range from 0.04 to 13.1 micrograms per cubic meter, which compares to the U.S. Environmental Protection Agency recommendation of 1.5 micrograms per cubic meter for ambient air. After one hour, five of the candles Nriagu tested emitted unsafe levels of lead into the air that measured greater than 1.5 micrograms per cubic meter.

After five hours, the lead levels in an enclosed space ranged from an estimated 0.21 to 65.3 micrograms per cubic meter. Candles produced in China and the United States released the highest levels of lead into the air.

Regular exposure to lead in this manner in confined spaces could pose health risks to people with weak immune systems, especially children and the elderly, Nriagu said.

"Lead poisoning remains one of the most serious environmental health diseases in this country and other parts of the world. It affects many organ systems and biochemical processes with the most serious sequelae often occurring in the central nervous, cardiovascular and blood systems," Nriagu said.

Nriagu's findings are consistent with an Australian study due to be published in the journal, *Science of the Total Environment*. In that study, Mike van Alphen of Lead Sense, an independent consultancy in Australia involved in environmental lead testing, lead exposure investigations and consumer product testing, examined a single brand of candle sold in Australia. The candle he examined released up to 1,130 micrograms of lead per hour.

Studies have shown that the central nervous system of children is particularly sensitive to lead. Some of the most damaging neuropsychological effects of lead poisoning of young children include learning disabilities, reduced psychometric intelligence and behavioral disorders. These effects have been associated with chronic low-level exposure to lead and are believed to be irreversible.

Nriagu's study measured the rate of lead emission in a laboratory setting using a flux chamber. The lead released as candle fume was collected in nitric acid and analyzed by means of an atomic absorption spectrometer. In addition to measuring emission rates, he calculated concentration levels of lead in the air in an enclosed space after one hour and then again, for five hours.

"The half-life of lead in air obviously would make a difference in terms of it being inhaled. A recent study has shown that particles emitted by candles during a normal burn are sub-micron in size and should remain suspended in the atmosphere for some time. Even if a particle is deposited after only a short trajectory through the atmosphere, it adds to the lead burden in the house dust. Airborne lead represents a hazard in more ways than one," Nriagu said.

House dust is widely recognized as a primary route of childhood lead exposure through hand-to-mouth activities.

"Assuming that only 50 percent of the lead released is deposited in an area measuring 12 feet by 15 feet (such as a living room), we estimate that the loading of the lead to house dust will exceed the U.S. EPA guideline of 100 micrograms per square meter by burning one of the Chinese candles for a few hours. Our data thus shows that burning leaded candles can result in extensive contamination of the air and house dust with lead," Nriagu said.

In general, Nriagu found that metal cores in Chinese candles were made of either pure lead or lead alloy while those made in the United States or Mexico consisted of zinc or lead-containing alloys. Lead was detected in small quantities in emissions from zinc-based wicks, suggesting that the lead may be a common contaminant in the zinc, wick or wax. The levels of lead were small, but still may represent a health risk over a long period of time.

Not all candles are made with wicks that have metallic cores. The practice is primarily used with candles that are needed to burn longer such as scented or ceremonial candles. A metal core is used to provide rigidity to the wick which provides an even and slower burn rate, and to reduce the mushrooming at the tip. Since lead and its alloys melt at relatively low temperature, a large fraction of the wick core material is volatilized as the candle is burned.

"Because it is costly and difficult to control lead once it is released to the environment and medical treatment does not fully reverse the health effects, the optimal strategy for minimizing the risk involves the reduction or elimination of exposure in various forms. This study shows that there are still other important domestic sources of lead exposure that have escaped public scrutiny and legislative control. Leaded candles were recently banned in Australia, and we recommend a similar action in this country," Nriagu said.

**Contact: Amy Reyes
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E-mail: amelynr@umich.edu**

WHITE PAPER ON CARBON MONOXIDE

Mr. Thomas J. Harris, P.E. sends us the following information about carbon monoxide.

A White Paper on Carbon Monoxide (CO) is posted on the NAVFAC Criteria Office World Wide Web site.

This paper is to alert and remind designers, construction inspectors, ROICC's, housing administrators, maintenance personnel, and occupants of the hazards, causes, and precautions necessary to avoid further injury and loss of life due to carbon monoxide poisoning.

The paper is in PDF format, about 28 pages or about 250K bytes in length, and is available at http://efdlant.navfac.navy.mil/lantops_15/. To access the White Paper, click "Carbon Monoxide" in the left hand column, then click "NAVFAC Criteria Office White Paper" to view and print the document; or right-click and select "Save Target As" to save the pdf file to your hard drive.

The initial distribution is by WWW download to avoid sending 28 pages to each addressee.

If you are unable to download the paper, please email me at the address below, and I will email the document to you.

**Thomas J. Harris, P.E, Criteria Manager, Mechanical and Industrial
Code 15 Criteria Office, LANTNAVFACENGCOM
DSN 262-4206, FAX 4416, Comm (757) 322-4206
harristj@efdlant.navfac.navy.mil**

INDUSTRIAL HYGIENE JOBS

Here is a job opportunity in the Allentown, Pennsylvania area for an Industrial Hygienist with these specs:

Perform Industrial Hygiene functions in a chemical plant involving processing, mixing, blending and packaging of an inert material. Sample for dusts, fumes, noise, air and skin contamination and advise corrective actions, implement actions and measure results. Should be able to perform respirator qualitative and quantitative fit testing. Reports to a Safety, Hygiene and Environmental Manager. Should have developed industrial hygiene skills in a chemical plant environment, and be on the path for certification as a IHIT/CIH.

Expect about 50K in salary. Respond email resume to danbbrockman@sprintmail.com or via web site at <http://www.trainingjob.com>

An opportunity for a CIH with 10 years industrial manufacturing experience to be the IH Manager for a global business. It's located in Northern New Jersey. Lots of travel, excellent money, advancement possible when the Director moves on. Email resume to Dan Brockman or web site register with our recruiters.

danbbrockman@sprintmail.com

<http://www.trainingjob.com>

Environmental Health Consultants, Inc. is a small occupational and environmental health and safety consulting firm. The firm is 11 years old with established clients and a backlog of projects. We have an immediate opening for an industrial hygienist.

The preferred person will be an experienced IH who is familiar with heavy construction, haz waste remediation projects, manufacturing, OSHA compliance and indoor air quality. Asbestos and lead experience and certification are a plus. Experience in California is another desirable factor.

The position is located in the San Francisco Bay Area, very close to San Francisco airport. We are interested in someone who can work independently, interact with client representatives and regulatory personnel, and write coherently.

Interested individuals can respond by sending a resume in Word 97 or Wordperfect 8 format. Please provide references and an indication of availability.

We would truly appreciate only seriously interested individuals respond. We will contact all references, and verify degrees and certifications.

Irene Fanelli, CIH, President

ehci@mindspring.com

INDUSTRIAL HYGIENIST

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OPEN PERIOD

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11/04/1999 - 12/03/1999

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SERIES/GRADE: GS-0690-11/12

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SALARY: \$ 40,714 TO \$ 64,436, ANNUAL

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PROMOTION POTENTIAL: GS-12

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ANNOUNCEMENT NUMBER: GEU000087

**HIRING AGENCY: US Army Corps of Eng
(Except Civ Prg Fin)**

DUTY LOCATIONS: 0001 BALTIMORE, MD
REMARKS: No further information provided.
CONTACT: LAURIE CICERO
PHONE: (410) 306-0128

U.S. ARMY
NORTHEAST
STAFFING DIVISION - DEU
314 JOHNSON STREET
ABERDEEN PROVING GRO, MD 21005-5283

Full vacancy announcement follows. Please be sure to review for complete qualification and "How to Apply" information.

Announcement No: GEU000087
Opening Date: November 04, 1999
Closing Date: December 03, 1999
Position Title (Pay Plan-Series): Industrial Hygienist (-0690)
Grade: 11, 12

Comments: THIS IS A DELEGATED EXAMINING ANNOUNCEMENT.

TENURE: This is a permanent position.

NOTES:

(1) Career/career conditional employees selected under this announcement will be required to serve a one year probationary period in accordance with 5 CFR 315.801(a)(1).
(2) Secret security clearance is required.
(3) Permanent Change of Station (PCS) cost is authorized.
(4) Frequent travel is required (50 percent of the time).
(5) Must possess a valid driver's license. (6) Incumbent must be physically able to visit job sites, perform field evaluations and inspect completed work. Must be able to climb ladders, work in confined spaces and work in hot environments. May be required to carry equipment (i.e., air tanks, drill samples) weighing as much as 50 pounds. (7) Exposure to variety of health and safety hazards requires use of protective equipment and clothing such as respirators, safety glasses, shoes, hats, body suits, and harnesses.

SALARY: (includes an adjusted locality payment)
GS-11: \$40,714 - \$52,927 per annum
GS-12: \$48,796 - \$63,436 per annum

Number of vacancies to be filled by this announcement : One (1).
Salary: \$40,714

IHNEWS MAILING LIST

Brenda Wolbert from USACHPPM sends us the following information.

The IHNews mailing list has been completely updated with all of the changes and requests for membership that have been received to date. I appreciate the patience of all of the list members during the re-construction period. IHNews now services approximately 980 members electronically. IHNews is now structured into four mailing lists, based on the organization for which you work. For your information, I have included the new IHNews structure and the number of members each list contains.

IHNews-Army 518 members

Includes personnel from OTSG, AMC(Headquarters & Installation), Army Installations, ARNG, Reserves, USACE

IHNews-DoD 72 members

Includes personnel from Air Force, Navy, USHUS, Defense Logistics Agency, etc.

IHNews-Other Government Agencies 86 members

Includes personnel from all other US Government agencies and facilities

IHNews-Educational & Private Sector 304 members

Includes personnel from the private sector, educational institutions, and research facilities

Please feel free to encourage your colleagues and any other industrial hygiene personnel to request a subscription to the valuable IHNews offers. Send requests for subscriptions to IHNews to: IHNews@apg.amedd.army.mil . Any notifications dealing with address updates or deletions should also be directed to the IHNews electronic mailing address.

We are always looking for useful information to send to the IHNews mail list. All information for IHNews distribution must be sent to the IHNews Administrator and disseminated from the IHNews account.

Thanks for your continued support of IHNews.

Brenda Wolbert, IHNews Mail List Administrator

Industrial Hygiene & Medical Safety Management Program, USACHPPM

410-436-2439, DSN 584-2439

mailto:IHNews@apg.amedd.army.mil

JUDGE UPHOLDS OSHA CITATIONS FOR HOUSTON BUILDING OWNER

An administrative judge has upheld citations for willful safety and health violations issued by OSHA against Ho Ho Ho Express, Inc., and Houston Fruitland, Inc. The owner, Eric K. Ho, was using untrained workers, all of whom were non-English speaking, uneducated and undocumented immigrants, to remove asbestos from the building he owned.. The workers were not told they were removing asbestos or the hazards associated with the material. The work was performed in street clothes that the workers wore home, and they were not given proper respiratory protection. More information on this subject can be found at

<http://www.osha.gov/media/oshnews/sept99/>

NAVFAC SOFTWARE

The Naval Facilities Safety and Health Office distributes occupational safety and health related software to U.S. Navy facilities and interested Department of the Navy organizations. [Activity Hazard Analysis Database](#), [Automated Hazard Analysis System \(AHAS\)](#), [Medical/Train Tracker Database](#), [TASKER Database](#), [CNO NAVOSH Program Cost Report \(Excel Workbook\)](#), and [Hazard Abatement Project Request Form](#) are available software.

Download the software at:

<http://www.navfac-safety.navy.mil/dwnlsftwr.htm>

NEW PHONE LIST FOR EPMU 2

NAVY ENVIRONMENTAL AND PREVENTIVE MEDICINE UNIT NO. 2

1887 POWHATAN ST. , NORFOLK VA 23511-3394

21-Oct-99

POLICE/FIRE: 444-3333

(757) 444-7671

AMBULANCE: 444-8674/3333

STAFF ROSTER

DSN: 564-7671

SECURITY: 444-2324

OFFICER IN CHARGE (00)

FAX: 444-1191

3005 CAPT D. C. FULTON MC, USN

SENIOR ENLISTED LEADER

LPO/DAPA/CAREER COL

3020 HMCS B. MULLEN, USN

3013 HM1 P. KING USN

ADMINISTRATIVE DEPT

INDUSTRIAL H

3006 LT R. ENRIQUEZ, MSC, USNR (SECURITY MANAGER)

3025 LCDR W. HAISSIG,

3002 A. VOGEL

3026 LTJG J. PIOTROWS

3001 C. HILL

3028 LTJG M. STEVENS,

3009 M. DYSON

3007 G. ROBERTS

3021 W. PHILLIPS

BIO DETECT (06)

3036 HMC J. SZCZEPANSKI, USN/HMC S. JOHNSON, USN (TEMP EXT)

3035 LT E. GOMEZ-SALA
HEAD)

3008 HM2 D. MCCOLLUM, USN

3004 G. COLVIN, USN

3010 HM1 K. MOONE, USN (01B)

3003 POOW DESK

INDUSTRIAL H
(07)

THREAT ASSESSMENT (02)

3038 G. LINDSAY (DEPT
HEAD)

3022 CDR J. LAMAR MC, USN (DEPT HEAD) UPON ARRIVAL

3039 P. LASSITER

3011 LCDR M. MALAKOOTI, MC, USNR

3040 CHEM LAB

3041 GC LAB

3054 INTERN

3042 A. ESPIRITU

FLEET SUPPORT (03)

3043 J. BEACHAM

3044 IH LAB

3015 LCDR S. WRIGHT, MSC, USN (DEPT HEAD)

3045 A. MARISTELLA

3016 LT E. GARLAND, MSC, USN

3017 HMC O. DEVINE, USN

DEPLOYMENT MEDICAL

3030 HM1 J. ACEVEDO, USN

3046 CDR G. HARRIS, MS

3031 HM1 D. EVANS

3047 M. MURRAY (DMS F

3033 HM2 A. LUNA SIMPSON, USN (email-simpsonl@nepmu2.med.navy.mil)

3049 LTJG A. WHITE, MS

3018 HM2 Q. WELLS, USN

3050 LT R. ERICKSON, M

3019 HN L. SANDERS

3056 HM3 G. GUMIENNY

FLEET HEALTH PROMO

3032 HM3 S. CROSS

3051 N. VON TERSCH

3052 HN L. SANDERS

ENTOMOLOGY (04)

3012LCDR S RANKIN, MSC, USN (DEPT HEAD)

Unit Email Address:
nepmu2@nepmu2.med.navy.mil

3029 LTJG F. STELL, MSC, USNR

Email Address: (last name)(first initial)@

POSTER SESSION

Information for submitting a poster/abstract for the NEHC 2000 Occupational Health and Preventive Medicine Workshop is located on the NEHC Homepage. Click on Workshop and then on Posters to find out all of the details. There's still plenty of space available, but the deadline for submitting abstracts is 30 November.

TRAINING

INDUSTRIAL HYGIENE TECHNIQUES/ EXPOSURE MONITORING COURSE

The schedule of courses to be held in Norfolk for the year 2000 is:

22 Feb - 3 Mar

18 - 28 Apr

13 - 23 June

15 - 25 Aug

10 - 20 Oct

This course is open to, and highly recommended for junior industrial hygienists, industrial hygiene officers, industrial hygiene technicians, and exposure monitors. This is also one of the qualifying courses for those seeking the safety petty officer NEC.

The course consists of nine busy days of classroom theory, heavily weighted with industrial hygiene math. Anyone versed in the fundamentals of elementary math should not have any problems, however, we will send a short math review quiz with the quota confirmation letter.

There are several ways to request a quota for the course: 1.) Use the enrollment form on the NEHC website at www.nehc.med.navy.mil 2.) Send an e-mail to johnsonr@nehc.med.navy.mil 3.) Mail a request letter 4.) FAX a request to Attention: R. Johnson at (757) 445-7330. For each student quota requested, please provide his/her name, his/her rank/rate or civilian grade level, date of the class desired, the return address of the command, and a commercial phone number.

If you would like further information, please contact Dick Johnson at com: (757) 462-5519, DSN 256-5519 or e-mail: johnsonr@nehc.med.navy.mil

MORE NEWS TO COME SOON!